

Electrification Incident

Issued to: All Network Rail line managers and Achilles registered contractors

Ref: SCB 17/01

Date of issue: 25 January 2017

Location: Southholme Farm near Carstairs, South Lanarkshire, Scotland

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Overview

On 7 December 2016 a fault current from the Overhead Line Equipment (OLE) near Carstairs was exported through a public telecoms network to the nearby Southholme Farm causing damage to telecoms equipment and the boiler in the property.

Hessian lagging from an expansion joint between concrete beams of an over-bridge had come loose and fallen into contact with the OLE below, bridging the 680mm clearance between the bridge and OLE.

The electrical fault then passed through the bridge into the telecoms circuit buried in the bridge before eventually passing into the adjacent farm.

Telecoms equipment plugged into the electrical mains allowed the fault to eventually be cleared through the domestic electrical system.

Significant burning damage was caused to all telecoms equipment in the farm and the equipment was spotted 'glowing red' by the occupants. The occupants also described the lights in the property flickering for 15 minutes around the time of the incident.

A full isolation was taken and the hessian lagging was cut down. Secondary insulation was installed on to the catenary wire.

Discussion Points

- When new buried services are run over bridges how do we enable them to be designed correctly?
- The hessian lagging hanging down in this case may have appeared low risk to the railway. No matter how low we may perceive the risk, are we reporting all defects such as these?
- When we are on the infrastructure do we report whether there are any materials on bridges that could potentially hang foul and come into contact with the OLE system?
- How could we design structures over OLE to avoid such risks?
- How do we design out health or safety risks that affect our staff and neighbours?